

Supplementary Online Content

King A, Schwartz LM, Woloshin S. A national survey of the frequency of drug company detailing visits and free sample closets in practices delivering primary care. *JAMA Internal Med*. Published online January 27, 2020. doi:10.1001/jamainternmed.2019.6770

eMethods. NSHOS Methods Supplement

eReferences.

This supplementary material has been provided by the authors to give readers additional information about their work.

eMethods. NSHOS Methods Supplement

The National Survey of Healthcare Organizations and Systems (NSHOS) was developed by researchers from Dartmouth College, the University of California at Berkeley, Harvard University, and the Mayo Clinic who form one of three Centers of Excellence established as part of the Agency for Healthcare Research Quality (AHRQ) Comparative Health System Performance (CHSP) Initiative.¹ The NSHOS was fielded from June 2017 to August 2018 and is a suite of nationally representative surveys that aim to characterize the structure, ownership, leadership, and care delivery capabilities of health care systems, primary and multispecialty care physician practices, and hospitals.²

In addition to containing novel questions aimed at characterizing the structure, ownership, leadership, and care delivery capabilities of health care systems, primary and multispecialty care physician practices, and hospitals, development of the NSHOS survey instrument took into consideration research into five different populations (respondents to the National Survey of Physician Organizations; practices participating in Medicare ACOs; systems, practices, and hospitals part of the Population-based Research to Optimize the Screening (PROSPR) project; and organizations in Massachusetts, Colorado, Oregon and Utah) and included questions that would allow for comparisons to previous and ongoing research among these populations. We also included oversamples of these five populations.

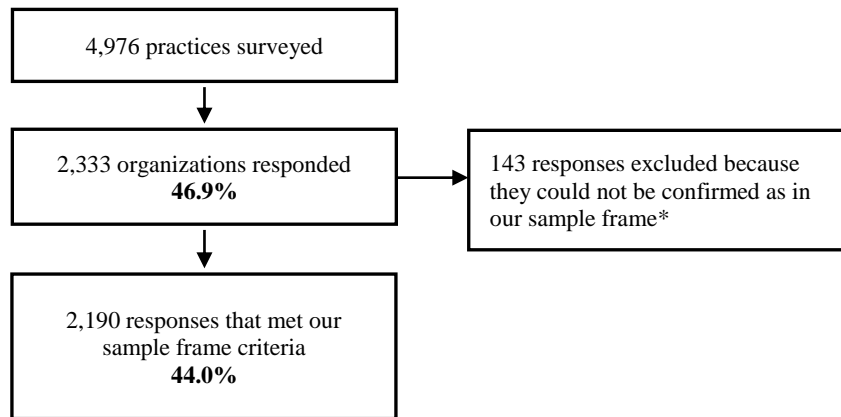
We used a stratified-cluster sampling design to select healthcare systems, physician practices, and hospitals (sample frame extracted from the IQVIA OneKey database). When a healthcare system was sampled, we then selected physician practices and hospitals owned by those systems. We stratified our sample based on ownership and composition structures including samples of both system-owned and independent physician practices and hospitals.²

Physician Practice Sample Frame and Generalizability

We surveyed practice managers and physicians in primary and multispecialty care physician practices that had at least three primary care physicians. We defined physician practices as a single location practice. Primary care physicians included family medicine, geriatrics, internal medicine, or preventive medicine specialties.

A specially constructed survey design was used to maximize our ability to learn from the full population of health systems and subsequently estimate statistical models that can estimate effects, capture heterogeneity, and attribute unexplained variation at multiple levels of data. We used a two-stage sampling design in which the within unit (second-stage) sampling probabilities varied across the primary sampling units (clusters). The primary-sampling units are also partially clustered in that owner-subsidiaries are always nested in corporate parents. However, many corporate parents do not have owner-subsidiaries nested within them. Thus, the design can be thought of as a two-stage probability design with multi-layered clustering and (optional) stratification by organization type (e.g., within-system versus independent hospitals and medical groups).²

We sampled 4,976 practices and analyzed 2,190 responses for a **response rate of 44%**.



*There were 2,333 responses to the practice level of the NSHOS survey. We conducted several tests to assure that the responses were from the intended organization that was within our sample frame as identified by IQVIA OneKey. The NSHOS survey included several questions intended to be used to verify that the respondent was the same organization that was in IQVIA OneKey. Comparison of responses to these questions with IQVIA OneKey data revealed that 57 responding practices did not appear to match the organizational characteristics in IQVIA OneKey. There were 81 practices that did not have an IQVIA ID in 2017, likely due to changes in ownership or an effort by IQVIA to clean-up the data file since the sample frame was created using the 2015 data. Because we were unable to match these 138 responses to IQVIA OneKey, we could not confirm that they were part of our sample frame and therefore could not properly weight these organizations. There were 5 organizations that were removed from the analysis because they had completed less than 50% of the survey or there were multiple responses from the same organization (in which case we kept the most complete response). We removed all 143 of these responses from our analytic file.

Because OneKey data do not indicate whether a physician practice provides outpatient care, we used Medicare claims to assess how our sample frame compares to physicians delivering care nationwide; 93% of physicians nationwide accept Medicare patients³. In 2015, there were 51,995 primary or multispecialty care physician practices with at least 1 primary care physician delivering ambulatory care to 17.6 million fee-for-service Medicare beneficiaries. Of these practices, 15,121 (29%) had 3 or more primary care physicians, and they delivered care to 10.6 million beneficiaries, or over 60% of patients receiving ambulatory care from primary care focused practices.

More information about NSHOS is available at <https://sites.dartmouth.edu/coe/nshos/>.²

eReferences

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2. Comparative Health System Performance: About NSHOS. Dartmouth College. <https://sites.dartmouth.edu/coe/nshos/>. 2019. Accessed October 6, 2016
3. Boccuti C, Fields C, Casillas G, Hamel L. Primary Care Physicians Accepting Medicare: A Snapshot. The Henry J. Kaiser Family Foundation. <https://www.kff.org/medicare/issue-brief/primary-care-physicians-accepting-medicare-a-snapshot/>. Published October 30, 2015. Accessed April 9, 2019.